UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>13 May 2008</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   The amendment submitted on 05/13/2008 has been acknowledged. Claims 1-16
are pending.

Response to Arguments

2.   Applicant's arguments filed on 05/13/2008 have been fully considered but they
are not persuasive.

(1) Argument 1:

Applicant argues that Fritz et al. does not disclose "**whether data to be printed
are not received by the wireless printer server for more than a predetermined
period during the wireless printing operation**".

With respect to the above argument "**whether data to be printed are not
received by the wireless printer server for more than a predetermined period
during the wireless printing operation**", Fritz et al. disclose a sending device
arranged for sending keep alive messages frequently to the printer server through a
timer. Note that as explained in column 5, lines 35-60, when the print job is not received
by the print server due to ACL connection being broken or when the printer is out of
paper, a message is generated. Therefore, the above argument is taught in Fritz et al.

(2) Argument 2:

Applicant argues that Fritz et al. does not disclose "**determining whether a link state or a link quality of a wireless communication is good by analyzing the received wireless communication information**".

With respect to the above argument "**determining whether a link state or a link quality of a wireless communication is good by analyzing the received wireless communication information**", Fritz et al. disclose wherein the ACL connection is analyzed if the connection is broken as stated in column 5, lines 56-62. Also, in column 9, lines 11-19; note that the ACL connection is established to be connection-less as in good communication state through the analysis of the printer protocol. Therefore, the above argument is taught in Fritz et al.

(3) Argument 3:

Applicant argues that Fritz et al. does not disclose "**determining whether the link quality is in good condition to smoothly perform the wireless communication when the link state of the wireless communication is in the on state**".

With respect to the above argument "**determining whether the link quality is in good condition to smoothly perform the wireless communication when the link state of the wireless communication is in the on state**", Fritz et al. disclose wherein the ACL connection is analyzed if the connection is broken as stated in column 5, lines 56-62. Also, in column 9, lines 11-19; note that the ACL connection is established to be connection-less as in good communication state through the analysis of the printer

protocol such that communication is established between the processing unit and the printer. Therefore, the above argument is taught in Fritz et al.

(4) Argument 4:

Applicant argues that Fritz et al. does not disclose "**the link quality information on the wireless communication are generated as the printer error information in (d)**".

With respect to the above argument "**the link quality information on the wireless communication are generated as the printer error information in (d)**", Fritz et al. disclose a notification means via message i.e. considered as the error message when connection of the ACL is broken as described in column 5, lines 56-62. Therefore, the above argument is taught in Fritz et al.

(5) Argument 5:

Applicant argues that Fritz et al. does not disclose "**a data receiving detection unit to detect whether data to be printed are not received by the wireless printer server for more than a predetermined period during the wireless printing operation and to putout a detection unit**".

With respect to the above argument "**a data receiving detection unit to detect whether data to be printed are not received by the wireless printer server for more than a predetermined period during the wireless printing operation and to putout a detection unit**", Fritz et al. disclose a sending device arranged for sending keep alive

messages frequently to the printer server through a timer. Note that as explained in column 5, lines 35-60, when the print job is not received by the print server due to ACL connection being broken or when the printer is out of paper, a message is generated. Therefore, the above argument is taught in Fritz et al. The same argument is applied as argument 1.

(6) Argument 6:

Applicant argues that Fritz et al. does not disclose "**a communication information analysis unit to analyze a link state or a link quality of a wireless communication by receiving the wireless communication information**".

With respect to the above argument "**a communication information analysis unit to analyze a link state or a link quality of a wireless communication by receiving the wireless communication information**", Fritz et al. disclose wherein the ACL connection is analyzed if the connection is broken as stated in column 5, lines 56-62. Also, in column 9, lines 11-19; note that the ACL connection is established to be connection-less as in good communication state through the analysis of the printer protocol. Therefore, the above argument is taught in Fritz et al. The same argument is applied as argument 2.

(7) Argument 7:

Applicant argues that Fritz et al. does not disclose "**a link quality measurement unit to measure the link quality with a sensitivity of communication between the**

wireless server printer and a host in response to the detection result and to

output a measurement result".

      With respect to the above argument "**a link quality measurement unit to**

measure the link quality with a sensitivity of communication between the wireless

server printer and a host in response to the detection result and to output a

measurement result", Fritz et al. disclose the printer entity comprising a responding

device arranged for responding upon a connection request whether the connection is

successful or not, in a response message sent to the printer client (column 6, lines 44-

47). Also, in column 9, lines 11-19; note that the ACL connection is established to be

connection-less as in good communication state through the analysis of the printer

protocol such that communication is established between the processing unit and the

printer. Therefore, the above argument is taught in Fritz et al.

     (8) Argument 8:

      Applicant argues that Fritz et al. does not disclose "**the error information**

generation unit generates the link state information and the link quality

information on the wireless communication as the print error information".

      With respect to the above argument "**the error information generation unit**

generates the link state information and the link quality information on the

wireless communication as the print error information", Fritz et al. disclose a

notification means via message i.e. considered as the error message when connection

of the ACL is broken as described in column 5, lines 56-62. Therefore, the above

argument is taught in Fritz et al.

(9) Argument 9:

Applicant argues that Nakajima et al. fails to disclose "**signal-to-noise ratio**".

With respect to the above argument "**signal-to-noise ratio**", Nakajima et al.

disclose measuring a transmission duration time for print data size and the speed of

Bluetooth unit and sensibility of radio (paragraph [0034]). It is known one ordinarily

skilled in the art that calculation or measurement of sensibility of radio signal

measurement is through signal-to-noise ratio or SNR. Thus, Nakajima et al. disclose the

stated argument.

3.   With respect to arguments made for claim 11, refer to the described argument 1-

2. The same argument is made for claim 11.

4.   With respect to arguments made for claim 12, refer to the described argument 3.

The same argument is made for claim 12.

5.   With respect to arguments made for claim 14, refer to the described argument 1.

The same argument is made for claim 14.

6.   With respect to arguments made for claim 15, refer to the described argument 3.

The same argument is made for claim 15.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8.   Claims 1-3, 5-8, 10-12 and 14-15 are rejected under 35 U.S.C. 102(a) as being

anticipated by Fritz et al. (US Patent Number 7,324,226 B2).

(1) regarding claim 1:

As shown in figures 4 and 5, Fritz et al. disclose a method of informing a user

about a print error of a printer that performs a wireless printing operation using a

wireless printer server (**402, 403, figure 4; column 5, lines 56-63; note that during a

printing process if the ACL connection is broken, a message gets generated and

sent to the user**), comprising:

(a) determining whether data to be printed are not received by the wireless

printer server for more than a predetermined period during the wireless printing

operation (**column 5, lines 35-44; note that 510 in figure 5 is a timer that is set to

implement the messages sent between the print server and the printer. And it

closes connection when the timer expires**);

(b) requesting and receiving wireless communication information on the wireless

printer server upon determining that the data to be printed are not received by the

wireless printer server for more than the predetermined period (**column 5, lines 35-41;**

note that frequent life messages get sent to the printer server in a predetermined

time period);

(c) determining whether a link state or a link quality of a wireless communication

is good by analyzing the received wireless communication information (**column 5, lines**

56-60; note that the ACL communication gets analyzed in order to determine if the

signal is bad);

(d) generating print error information regarding the communication between the

wireless printer server and a host when the link state or the link quality of the wireless

communication is bad (**column 5, lines 56-60; note that when the ACL**

communication is broken, a message gets generated regarding the

communication); and

(e) reporting the print error information to the user (**column 5, lines 60-63; note**

that the message gets reported to user).

(2) regarding claim 2:

Fritz et al. further disclose the method of claim 1, wherein (c) comprises: (c1)

determining whether the link state of the wireless communication is in an on state after

(b) (**column 6, lines 44-45; note that the responding device 604 in figure 6, is**

arranged for responding upon a connection request thus is considered as an on

state); and (c2) determining whether the link quality is in good condition to smoothly

perform the wireless communication when the link state of the wireless communication

is in the on state (**column 6, lines 44-47; note that a connection gets established**

whether it is successful or not), wherein if the link state of the wireless

communication is in an off state in (c1) or the link quality is in a bad condition to

smoothly perform the wireless communication in (c2), (d) is performed (**column 5, lines**

56-60; note that when the ACL communication is broken, a message gets

generated regarding the communication).

     (3) regarding claim 3:

     Fritz et al. further disclose the method of claim 1, wherein the link state

information and the link quality information on the wireless communication are

generated as the print error information in (d) (**column 5, lines 56-60; note that when**

the ACL communication is broken, a message gets generated regarding the

communication which is also considered as an error information).

     (4) regarding claim 5:

     Fritz et al. further disclose the method of claim 1, wherein the print error

information is displayed on a display screen of the printer or is printed in (e) (**column 5,**

lines 60-63; note that the message gets displayed on the screen of the PC).

     (5) regarding claim 6:

     As shown in figures 4 and 5, Fritz et al. disclose an apparatus for informing a

user about a print error of a printer that performs a wireless printing operation using a

wireless printer server (**402, 403, figure 4; column 5, lines 56-63; note that during a**

**printing process if the ACL connection is broken, a message gets generated and
sent to the user**), the apparatus comprising:

a data receiving detection unit to detect whether data to be printed are not
received by the wireless printer server for more than a predetermined period during the
wireless printing operation and to output a detection result (**column 5, lines 35-44;
note that 510 in figure 5 is a timer that is set to implement the messages sent
between the print server and the printer. And it closes connection when the timer
expires**);

a communication information request unit to request the wireless communication
information on the wireless printer server in response to the detection result and to
output a requested result (**column 5, lines 35-41; note that frequent life messages
get sent to the printer server in a predetermined time period**);

a communication information analysis unit to analyze a link state or a link quality
of the wireless communication by receiving the wireless communication information
from the wireless printer server and to output an analysis result (**column 5, lines 56-60;
note that the ACL communication gets analyzed in order to determine if the signal
is bad**);

an error information generation unit to generate print error information based on
the analysis result and to output the print error information (**column 5, lines 56-60;
note that when the ACL communication is broken, a message gets generated
regarding the communication**); and

an error information informing unit to report the print error information to the user

(**column 5, lines 60-63; note that the message gets reported to user**).

(6) regarding claim 7:

Fritz et al. further disclose the apparatus of claim 6, wherein the communication

information analysis unit comprises: a link on detection unit to detect whether the link

state of the wireless communication is in an on state and to output a detection result

(**column 6, lines 44-45; note that the responding device 604 in figure 6, is**

arranged for responding upon a connection request thus is considered as an on

state); and a link quality measurement unit to measure the link quality with a sensitivity

of communication between the wireless server printer and a host in response to the

detection result and to output a measurement result (**column 6, lines 44-47; note that**

a connection gets established whether it is successful or not), wherein the error

information generation unit generates the print error information based on the detection

result or the measurement result (**column 5, lines 56-60; note that when the ACL**

communication is broken, a message gets generated regarding the

communication).

(7) regarding claim 8:

Fritz et al. further disclose the apparatus of claim 6, wherein the error information

generation unit generates the link state information and the link quality information on

the wireless communication as the print error information (**column 5, lines 56-60; note**

that when the ACL communication is broken, a message gets generated
regarding the communication which is also considered as an error information).

     (8) regarding claim 10:

Fritz et al. further disclose the apparatus of claim 6, wherein the error information
informing unit displays the print error information on a display screen of the printer or
prints the print error information (**column 5, lines 60-63; note that the message gets
displayed on the screen of the PC**).

     (9) regarding claim 11:

Fritz et al. further disclose a method, comprising: determining, during a printing
operation, whether data to be printed on a wireless network printer is not received for
more than a predetermined period of time (**column 5, lines 35-44; note that 510 in
figure 5 is a timer that is set to implement the messages sent between the print
server and the printer. And it closes connection when the timer expires**);

and generating and reporting print error information regarding a communication
between a wireless network printer server and a computer when data is not received for
more than the predetermined period of time (**column 5, lines 56-60; note that when
the ACL communication is broken, a message gets generated regarding the
communication**).

     (10) regarding claim 12:

Fritz et al. further disclose the method of claim 11, further comprising: determining whether a link quality and a link state of the communication are both good (**column 7, lines 4-12; note that once the communication is established print data gets sent and the printer starts to process**), wherein the print error information is not generated and transmitted when the link quality and the link state are both good (**column 5, lines 60-63; note that the error message gets displayed for the user when there is a bad connection i.e. there is no error message necessary if connection is good**).

(11) regarding claim 14:

Fritz et al. further disclose a machine-readable medium that provides instructions, which, when executed by a machine, cause the machine to perform operations comprising: determining, during a printing operation, whether data to be printed on a wireless network printer is not received for more than a predetermined period of time (**column 5, lines 35-44; note that 510 in figure 5 is a timer that is set to implement the messages sent between the print server and the printer. And it closes connection when the timer expires**); and generating and reporting print error information regarding a communication between a wireless network printer server and a computer when data is not received for more than the predetermined period of time (**column 5, lines 56-60; note that when the ACL communication is broken, a message gets generated regarding the communication**).

(12) regarding claim 15:

Fritz et al. further disclose The machine-readable medium of claim 14, wherein

the instructions cause the machine to perform operations further comprising:

determining whether a link quality and a link state of the communication are both good

(**column 7, lines 4-12; note that once the communication is established print data**

gets sent and the printer starts to process), wherein in the print error information is

not generated and transmitted when the link quality and the link state are both good

(**column 5, lines 60-63; note that the error message gets displayed for the user**

when there is a bad connection i.e. there is no error message necessary if

connection is good).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fritz et al. (US Patent Number 7,324,226 B2) as applied to claims 1 and 6 above, and

further in view of Inoguchi et al. (US Patent Number 7,107,058 B2).

(1) regarding claim 4:

Fritz et al. disclose all of the subject matter as described as above except for specifically teaching wherein date and time when the print error appeared, channel information, or identification address and Internet address of the host, which transfers the data to be printed, are further generated as the print error information in (d).

However, Inoguchi et al. disclose wherein date and time when the print error appeared, channel information, or identification address and Internet address of the host, which transfers the data to be printed, are further generated as the print error information in (d) (**column 6, lines 50-62; note that when there is a failure, the channel information and service center information gets printed**).

Fritz et al. and Inoguchi et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein date and time when the print error appeared, channel information, or identification address and Internet address of the host, which transfers the data to be printed, are further generated as the print error information in (d). The suggestion/motivation for doing so would have been to effectively analyze the problem and for better monitoring the system. Therefore, it would have been obvious to combine Fritz et al. with Inoguchi et al. to obtain the invention as specified in claim 4.

(2) regarding claim 9:

Fritz et al. disclose all of the subject matter as described as above except for specifically teaching wherein the error information generation unit further generates a

print date and time when the print error appeared, channel information, or identification

address and Internet address of the host, which transfers the data to be printed.

However, Inoguchi et al. disclose wherein date and time when the print error

appeared, channel information, or identification address and Internet address of the

host, which transfers the data to be printed, are further generated as the print error

information in (d) (**column 6, lines 50-62; note that when there is a failure, the

channel information and service center information gets printed**).

Fritz et al. and Inoguchi et al. are combinable because they are from the same

field of endeavor. At the time of the invention, it would have been obvious to a person of

ordinary skilled in the art wherein date and time when the print error appeared, channel

information, or identification address and Internet address of the host, which transfers

the data to be printed, are further generated as the print error information in (d). The

suggestion/motivation for doing so would have been to effectively analyze the problem.

Therefore, it would have been obvious to combine Fritz et al. with Inoguchi et al. to

obtain the invention as specified in claim 9.

11.   Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Fritz et al. (US Patent Number 7,324,226 B2) as applied to claims 11 and 14

above, and further in view of Nakajima et al. (Japanese Publication Number 2002-

229761)

  (1) regarding claim 13:

Fritz et al. disclose all of the subject matter as described as above except for specifically teaching wherein the link quality denotes a sensitivity of the communication, which can be measured using a signal-to-noise (S/N) ratio.

However, Nakajima et al. teach wherein the link quality denotes a sensitivity of the communication, which can be measured using a signal-to-noise (S/N) ratio **(paragraph [0034], lines 1-8; note that in S13 the receiving sensitivity of the wireless communication is measured)**.

Fritz et al. and Nakajima et al. are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skilled in the art wherein the link quality denotes a sensitivity of the communication, which can be measured using a signal-to-noise (S/N) ratio. The suggestion/motivation for doing so would have been in order to efficiently control and detect the error rate. Therefore, it would have been obvious to combine Fritz et al. with Nakajima et al. to obtain the invention as specified in claim 13.

(2) regarding claim 16:

Fritz et al. disclose all of the subject matter as described as above except for specifically teaching wherein the link quality denotes a sensitivity of the communication, which can be measured using a signal-to-noise (S/N) ratio.

However, Nakajima et al. teach wherein the link quality denotes a sensitivity of the communication, which can be measured using a signal-to-noise (S/N) ratio

(paragraph [0034], lines 1-8; note that in S13 the receiving sensitivity of the

wireless communication is measured).

Fritz et al. and Nakajima et al. are combinable because they are from the same

field of endeavor. At the time of the invention, it would have been obvious to a person of

ordinary skilled in the art wherein the link quality denotes a sensitivity of the

communication, which can be measured using a signal-to-noise (S/N) ratio. The

suggestion/motivation for doing so would have been in order to efficiently control and

detect the error rate. Therefore, it would have been obvious to combine Fritz et al. with

Nakajima et al. to obtain the invention as specified in claim 16.

Conclusion

12.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

13.   Any inquiry concerning this communication or earlier communication from the

examiner should be directed to Hilina Kassa whose telephone number is (571) 270-

1676.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Moore could be reached at (571) 272- 7437. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about PAIR system, see http://pari-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hilina S Kassa/

Examiner, Art Unit 2625

August 11, 2008

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625